UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,657	09/26/2003	Jan Boer	Boer 8-28-6-6	2318

47386 7590 02/23/2010

RYAN, MASON & LEWIS, LLP
1300 POST ROAD
SUITE 205
FAIRFIELD, CT 06824

EXAMINER	
SINKANTARAKORN, PAWARIS	
ART UNIT	PAPER NUMBER
2464	

MAIL DATE	DELIVERY MODE
02/23/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/672,657	BOER ET AL.	
	Examiner	Art Unit	
	Pao Sinkantarakorn	2464	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 18-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 18-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 and 18 have been considered but are moot in view of the new ground(s) of rejection. The new ground(s) of rejection is made in view of different interpretation of the previously applied references.

2. On pages 2-3 of the Remarks, the Applicants submit that Currivan et al. do not disclose detecting a collision based on a comparison of an energy level and an energy level threshold because output signal 457 does not correlate with whether a collision is detected, where a collision can be detected if the output signal 457 is high, medium, or low. The Examiner respectfully disagrees. Currivan et al. utilize three (3) output signals (455, 457, and 459) to determine whether a collision is detected. The fact that output signal 457 is one of the parameters that Currivan et al. utilize to determine whether a collision is detected is enough to be broadly interpreted as detecting a collision based on output signal 457. Please note that the claim is not limited to detecting a collision based on only output signal 457. Currivan et al. also teach a collision is detected based on a SNR indication signal and a threshold signal, where the SNR indication signal represents a ratio of signal energy level and noise energy level (see paragraphs 55-58 and 70-78, and Table 1). Thus, Currivan et al. disclose detecting a collision based on a comparison of an energy level and an energy level threshold.

3. On pages 3-4 of the Remarks, the Applicants submit that Currivan's teaching teaches away from the present invention. However, the Applicant provides no basis on how Currivan's teaching teaches away from the present invention. Please note that,

although claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment. Thus, in view of the above reasoning, the Examiner respectfully submits that Wang and Currivan, in view of Kanterakis disclose every limitations of claims 1 and 18. The Examiner also respectfully submits that the motivation for combining the references have been provided with the rejections.

4. Claims 1-10 and 18-23 are currently pending in the application.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 18-23 are rejected under 35 U.S.C. 101 because the recitation of a processor in itself does not tie the process steps to a "particular" machine. In other words, the recitation of a processor does not limit the processor to a particular machine specifically programmed for executing the steps of the claimed method. Thus, claim 1

fails the first prong of the machine-or-transformation test because it is not tied to a particular machine or apparatus.

A claimed process is patent-eligible under § 101 if: (1) it is tied to a "particular" machine or apparatus, or (2) it transforms a particular article into a different state or thing.

Claim Rejections - 35 USC § 103

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-10 and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (USPN 5,721,733) and Currivan et al. (US 2003/0026283) in view of Kanterakis et al. (USPN 6,169,759).

Regarding claim 1, Wang et al. disclose a first wireless communication device, comprising:

a controller capable of receiving an acknowledgement (ACK) message transmitted by a second wireless communication device in response to a message transmitted by the first wireless communication device (see column 5 lines 25-43), and

a collision detector that monitors a wireless medium for collisions of the acknowledgement message (see column 5 line 66 – column 6 line 8).

Wang et al. do not expressly disclose a collision detector that monitors for collisions based on an energy level, preamble detection, and payload detection. However, the invention of Currivan et al. from the same or similar fields of endeavor disclose a collision detector that monitors for collisions based on a comparison of an energy level and an energy level threshold and preamble detection (see paragraphs 55-58 and 70-78, and Table 1, a collision is detected based on a SNR indication signal and a threshold signal and a preamble detection, where the SNR indication signal represents a ratio of signal energy level and noise energy level; for example, an in-

phase collision is detected when the output signal 459 is low and the output signal 457 is high, where the output signal 459 is related to the SNR indication signal 438 and the output signal 457 is related to the power indication signal).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the collision detector that monitors for collisions based on an energy level and preamble detection as taught by Currivan et al. into the collision detecting apparatus of Wang et al.

The motivation for implementing a collision detector that monitors for collisions based on an energy level and preamble detection is that it enables accurate detection of collisions (see paragraph 58).

Wang et al. and Currivan et al. do not expressly disclose a collision detector that monitors for collisions based on payload detection. However, Kanterakis et al., from the same or similar fields of endeavor, disclose a collision detector that monitors for collisions based on payload detection (see column 6 lines 45-60 and column 9 lines 8-17, detecting collision based on the collision detection field, where the beginning of the data payload contains a collision detection field).

Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the collision detector that monitors for collisions based on payload detection as taught by Kanterakis et al. into the collision detecting apparatus of Wang et al. and Currivan et al.

The motivation for implementing the collision detector that monitors for collisions based on payload detection is that the collision detection field is used to relay

information about the possibility of collision with other simultaneously transmitting remote stations (see column 9 lines 13-14), which allows the station to stop further transmission of data (see column 6 lines 56-60) to lower the bandwidth usage of the network.

Regarding claim 2, Wang et al. disclose all the subject matter of the claimed invention except the first communication device, wherein the collision detector evaluates the energy level and detects a collision based on the energy level and the preamble detection. However, the invention of Currivan et al. from the same or similar fields of endeavor disclose a collision detection module, wherein the module evaluates power indication signal (see paragraphs 70-78), and detects a collision based on the evaluated power indication signal and the preamble detection (see paragraphs 55-58 and 70-78, and Table 1).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the collision detection module, wherein the module evaluates power indication signal and detects a collision based on the evaluated power indication signal as taught by Currivan et al. into the collision detecting apparatus of Wang et al.

The motivation for implementing the collision detection module, wherein the module evaluates power indication signal and detects a collision based on the evaluated power indication signal and the preamble detection is that it enables accurate detection of collisions (see paragraph 58).

Regarding claim 3, Wang et al. and Currivan et al. do not expressly disclose a payload detector that detects for collisions based on the detected payload. However,

Kanterakis et al., from the same or similar fields of endeavor, disclose a payload detector that detect for collisions based on the detected payload (see column 6 lines 45-60 and column 9 lines 8-17, detecting collision based on the collision detection field, where the beginning of the data payload contains a collision detection field).

Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the payload detector that detects for collisions based on the detected payload as taught by Kanterakis et al. into the collision detecting apparatus of Wang et al. and Currivan et al.

The motivation for implementing the payload detector that detects for collisions based on the detected payload is that the collision detection field is used to relay information about the possibility of collision with other simultaneously transmitting remote stations (see column 9 lines 13-14), which allows the station to stop further transmission of data (see column 6 lines 56-60) to lower the bandwidth usage of the network.

Regarding claim 4, Wang et al. do not expressly disclose a preamble detector that detects for collisions based on the detected preamble. However, the invention of Currivan et al. from the same or similar fields of endeavor disclose a preamble detector that detects a collision based on the evaluated power indication signal and the preamble detection (see paragraphs 55-58).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the preamble detector that detects for collisions based on the detected

preamble as taught by Currivan et al. into the collision detecting apparatus of Wang et al.

The motivation for implementing the preamble detector that detects for collisions based on the detected preamble is that it enables accurate detection of collisions (see paragraph 58).

Regarding claim 5, Wang et al. disclose the collision detector is activated after the medium access wireless communication device transmits data (see column 5 line 66 – column 6 line 8);

regarding claim 6, the collision detector does not detect a collision if an ACK message or data header is received (see column 5 line 66 – column 6 line 8);

regarding claim 8, the controller determines if the second wireless communication device correctly received the transmitted message by monitoring the wireless medium (see column 5 line 66 – column 6 line 8);

regarding claim 9, the controller determines that the second wireless communication device did not likely receive the message if a collision is detected (see column 5 line 66 – column 6 line 8);

regarding claim 10, the controller determines that the collision was a cause of not receiving the ACK message (see column 5 line 66 – column 6 line 8).

Regarding claim 7, Wang et al. disclose all the subject matter of the claimed invention except the first communication device, wherein the device is implemented in accordance with the IEEE 802.11 Standard. However, the invention of Currivan et al.

from the same or similar fields of endeavor disclose an 802.11-standard device (see paragraph 130, OFDMA; The modulation scheme used in 802.11 is OFDM).

Thus, it would have been obvious to the person of ordinary skill in the art to utilize an 802.11-standard device as taught by Currivan et al. in the collision detecting apparatus of Wang et al.

The motivation for utilizing an 802.11-standard device in the collision detecting apparatus is that it provides a faster transmission rate and more reliable.

Regarding claim 18, Wang et al. disclose a method for detecting a collision in a wireless communication network, the method comprising the steps of:

monitoring the wireless communication network for an acknowledgement message received in response to transmitted data (see column 5 lines 25-43); and

monitoring the wireless communication network to detect a collision of the acknowledgement message (see column 5 line 66 – column 6 line 8).

Wang et al. do not expressly disclose a method for monitoring for a collision based on an energy level, preamble detection, and payload detection. However, the invention of Currivan et al. from the same or similar fields of endeavor disclose a collision detector that monitors for collisions based on a comparison of an energy level and an energy level threshold and preamble detection (see paragraphs 55-58 and 70-78, and Table 1, a collision is detected based on a SNR indication signal and a threshold signal and a preamble detection, where the SNR indication signal represents a ratio of signal energy level and noise energy level; for example, an in-phase collision

is detected when the output signal 459 is low and the output signal 457 is high, where the output signal 459 is related to the SNR indication signal 438 and the output signal 457 is related to the power indication signal).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the method for monitoring for a collision based on an energy level and preamble detection as taught by Currivan et al. into the collision detecting apparatus of Wang et al.

The motivation for implementing the method for monitoring for a collision based on an energy level and preamble detection is that it enables accurate detection of collisions (see paragraph 58).

Wang et al. and Currivan et al. do not expressly disclose a method for monitoring for a collision based on payload detection. However, Kanterakis et al., from the same or similar fields of endeavor, disclose a collision detector that monitors for collisions based on payload detection (see column 6 lines 45-60 and column 9 lines 8-17, detecting collision based on the collision detection field, where the beginning of the data payload contains a collision detection field).

Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the method for monitoring for a collision based on payload detection as taught by Kanterakis et al. into the collision detecting apparatus of Wang et al. and Currivan et al.

The motivation for implementing the method for monitoring for a collision based on payload detection is that the collision detection field is used to relay information

about the possibility of collision with other simultaneously transmitting remote stations (see column 9 lines 13-14), which allows the station to stop further transmission of data (see column 6 lines 56-60) to lower the bandwidth usage of the network.

Regarding claim 19, Wang et al. and Currivan et al. do not expressly disclose a method for detecting a payload and the collision detection is further based on the detected payload. However, Kanterakis et al., from the same or similar fields of endeavor, disclose a payload detector that detect for collisions based on the detected payload (see column 6 lines 45-60 and column 9 lines 8-17, detecting collision based on the collision detection field, where the beginning of the data payload contains a collision detection field).

Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the method for detecting a payload and the collision detection is further based on the detected payload as taught by Kanterakis et al. into the collision detecting apparatus of Wang et al. and Currivan et al.

The motivation for implementing the method for detecting a payload and the collision detection is further based on the detected payload is that the collision detection field is used to relay information about the possibility of collision with other simultaneously transmitting remote stations (see column 9 lines 13-14), which allows the station to stop further transmission of data (see column 6 lines 56-60) to lower the bandwidth usage of the network.

Regarding claim 20, Wang et al. do not expressly disclose a method for detecting a preamble and the collision detection is further based on the detected

preamble. However, the invention of Currivan et al. from the same or similar fields of endeavor disclose a preamble detector that detects a collision based on the evaluated power indication signal and the preamble detection (see paragraphs 55-58).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the method for detecting a preamble and the collision detection is further based on the detected preamble as taught by Currivan et al. into the collision detecting apparatus of Wang et al.

The motivation for implementing the method for detecting a preamble and the collision detection is further based on the detected preamble is that it enables accurate detection of collisions (see paragraph 58).

Regarding claim 21, Wang et al. disclose a method, wherein the monitoring steps are performed after the data is transmitted (see column 5 line 66 – column 6 line 8);

regarding claim 22, the monitoring for the acknowledgement message step does not detect a collision if an ACK message or data header is received (see column 5 line 66 – column 6 line 8).

Regarding claim 23, Wang et al. disclose all the subject matter of the claimed invention except the method is implemented in accordance with the IEEE 802.11 Standard. However, the invention of Currivan et al. from the same or similar fields of endeavor disclose an 802.11-standard device (see paragraph 130, OFDMA; The modulation scheme used in 802.11 is OFDM).

Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to utilize an 802.11-standard device as taught by Currivan et al. in the collision detecting apparatus of Wang et al.

The motivation for utilizing an 802.11-standard device in the collision detecting apparatus is that it provides a faster transmission rate and more reliable.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. **Examiner's Note**: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although

the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pao Sinkantarakorn whose telephone number is (571) 270-1424. The examiner can normally be reached on Monday-Thursday 9:00am-3:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. S./
Examiner, Art Unit 2464

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2464